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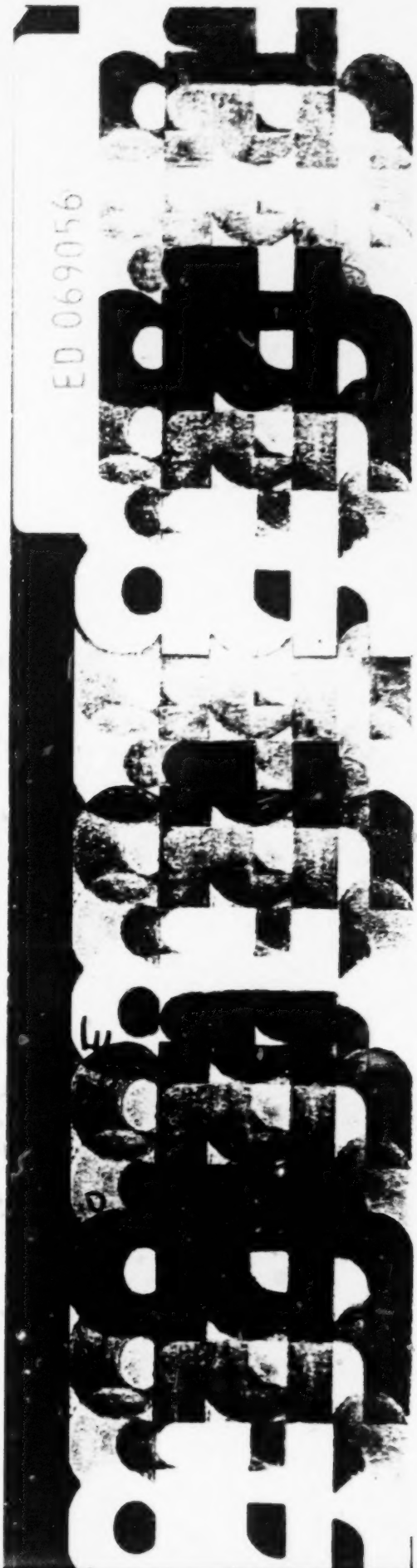
ABSTRACT

Communication interactions between a child (2 to 5 years of age) and the language users around him were studied by means of a descriptive model which employs interrogation as the index of audit speech patterns. It was hypothesized that adult demands would correlate with a child's language response capability and would constitute a useful index of the child's language environment. Using 15 categories of questions (such as tag question, auxiliary and infinitive question, and main verb introduced question), examiners analyzed adult questions generated from seven mother child interactions. Interrogation profiles showed a shift in the adult interrogation from a heavy concentration in a few categories among the youngest subjects to a more even distribution among older subjects. Results indicated that type of verbal demands an adult places on a child changed in relation to improved language capability. (GW)



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INTERROGATION: A MODEL AND SOME IMPLICATIONS

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Interrogation: A Model and Some Implications

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Abstract

Language is acquired as a result of communication interactions between a child and the language users around him. Proper inquiry into the nature of this process will eventually require extensive study of language acquisition in natural settings. A descriptive model is proposed for the study of these interactions, based upon a means to record and analyze the adult demands placed upon a child. It is hypothesized that these adult demands are correlated with a child's language response capability and constitute a useful index of the child's language environment. This avenue for the study of children's language, either normal or deviant, appears to offer some potential advantages.

Interrogation: A Model and Some Implications

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In recent years, linguistic and psycholinguistic advances have added new evidence of the immense complexity of language and its acquisition. Concurrently, these advancements have established additional requirements for any theory of language acquisition. Among these requisites, theoretical positions must provide supportive evidence to account for at least some syntactic and morphophonological regularities of language. Reliance upon imitation, generalization, or other similar types of umbrella statements to account for selected features of language oversimplifies the problem and is not congruent with the systematic and complex character of language behavior (Miller, 1965). A key requirement for any environmental theory of language acquisition is demonstration of a relationship between specific environmental events and specific characteristics of language. If the environment is the primary instrument from which a child acquires language, then it must be assumed that certain events in that environment are systematically related to specific features of language.

RATIONALE

Young children in the process of acquiring language or children who exhibit deviant language acquisition are functioning, by definition, with limited comprehension and productive language capabilities. These

children thus will impose restrictions upon communication with an adult. For example, should an adult say, "Show me your nose," to a 16-month-old child, the child might respond quite appropriately by pointing to his nose. On the other hand, the child might not respond at all or might respond incorrectly and inappropriately to "Show me your nostril." This example points out a vocabulary restriction imposed by the child upon the interactions. Similar restrictions may be posed for other language dimensions, such as syntactic complexity or referential abstractness.

If an adult is to communicate with a child, that is, be understood and responded to by the child, then the assumption is made that the adult will adjust his pattern of communication to approximate the child's restrictions. Simply stated, adults must communicate with a child within his language processing abilities; violations of the child's abilities will momentarily or permanently terminate the communication. These adult speech adjustments may be highly correlated with the child's language under some conditions and less well correlated under other conditions, where additional factors must be considered. However, investigation of any of these relationships is first dependent upon the adoption of some index of adult speech.

In an adult-child interaction, the influence of the child-imposed restrictions may be most prominent in interaction segments in which the adult demands a response from the child. Since some segments of the interaction carry a high demand for the child's response (for example, adult commands) and some segments carry a low demand for the child's

response (for example, adult declarative statements), one might expect the adult to be most sensitive to the child's limited response capability when actually demanding a response. Accordingly, adults' demands were chosen as a potential index of adult patterns of speech with children.

A PROPOSED MODEL

Adults may demand a response from a child in various ways, some of which are relatively subtle and others more direct. Among these demand types, the model to be described here will be restricted to adult questions. Interrogation was chosen as a potential index of adult speech patterns, for several reasons. Often it occurs at a very high rate in an adult-child interaction, especially when the child is functioning with an incompletely developed language system. Also, in any interaction interrogation appears to be a segment that an observer can reliably distinguish and record. This aspect offers some potential experimental advantages in data availability and observer reliability.

Some Syntactic Correlates of Constraints

Questions an adult asks a child may take many syntactic forms. Some common kinds of questions include "It's a pretty day today, isn't it?" "Where is your Daddy?" "Do you like ice cream?" "Can you find your nose?" Gross syntactic characteristics may serve to identify the "appropriateness" of certain classes of responses. For example, the first question, "It's a pretty day today, isn't it?" is a tag question and follows the general syntactic pattern of a declarative statement-plus-tag. Questions of this type limit the child to a confirmation response (af-

firmative or negative), commonly expressed vocally as a "yes" or "no" or motorically by a head nod. In fact, all tag questions must be answered by a confirmation type of response if the response is to be appropriate. On the other hand, questions like "Where is your Daddy?" do not permit a confirming type of response; a general affirmation or negation in response to this question would be highly inappropriate. An appropriate answer here is confined to locating Daddy in space, either explicitly by answering, "At home," or, "In his office," or implicitly by such responses as "Sleeping" or "Playing golf."

While there are many syntactic differences between the two questions used for illustration, one gross syntactic feature differentiates both questions at a basic level. The presence or absence of a Wh-interrogative (who, what, when, which, where, why, how) at the outset of a question denotes the appropriateness or inappropriateness of a confirmation response. If the question is initiated by a Wh-interrogative, confirmation is inappropriate; if not, then confirmation is appropriate (this latter grouping has various subcategories which further limit the conditions under which confirmation takes place). In other words, a child may respond to the presence or absence of a Wh-interrogative; when this discrimination is made, it will serve as a basic constraint for his responses. Alternately, if the discrimination is not made, his responsiveness to some question types may be inappropriate.

As another example of a gross syntactic feature which may identify a response constraint, two types of questions with no Wh-interrogative, like "Is Daddy home?" and "Have you any water?" may be examined. Both questions are similar in that they permit confirmation responses (yes or

no), but they are different in that the latter question also permits a motor response (passing a glass of water or pointing to water). The gross syntactic feature which separates these two questions is the main verb which introduces the question. If a question is introduced by the main verb is, the response to the question will be confirmation (yes or no). On the other hand, if a question is introduced by the main verb have, the question permits an optional response, either a confirmation or a motor level of response. When questions are introduced by a main verb (always is or have), the discrimination between mandatory confirmation or optional confirmation may be predicted directly from the verb used. Other syntactic or semantic features (transitive vs. nontransitive and action vs. nonaction) may also be operative, providing redundant information.

So far, it has been demonstrated that questions have gross syntactic features which may be used to identify appropriate response classes. While some of these features appear to be quite gross, others are more subtle. Apparently, these features can function as highly reliable predictors for the appropriateness of the child's response. If the child's response is appropriate to the question asked, then it appears reasonable to assume the child is making the requisite discriminations in order to meet the question constraints. Presumably, in the adult's interrogation of the child, shifts in these syntactic constraints will occur in relation with the child's demonstration of syntactic and discriminative capability. The specific types of shifts and under what conditions these shifts occur are of particular interest in the application of this model

to adult interrogation.

Other Constraint Correlates

Accompanying the gross syntactic correlates, there are referential features which may place additional constraints upon responses. Referential features refer to the availability of an information source for the child, to the means of designating the source of information, or to individual characteristics of the information source. For example, some forms of questioning ("What's that?" "What is he doing?" "Who is this?") require an immediately available source of information (a picture, an object). Questions of this sort will occur only in the presence of some immediate referent to which the child must attend before an appropriate response can occur. On the other hand, questions that do not require an immediately available stimulus include "Do you like candy?" "Where is your Daddy?" "How do you play football?" These questions may occur in the presence of a stimulus that suggests the content of the question, but none requires an available information source for an appropriate response. These examples suggest two general referential classes: those for which the availability of an information stimulus is mandatory and those for which its availability is optional.

Another referential feature variation concerns the means of designating the stimulus. For example, some questions require a nonlinguistic designating behavior of the adult (typically a nod or gesture) while other types do not. Questions making use of nonlinguistic designation include "Who are they?" "What are those?" "Where is that?" On the other hand, questions like "What is the cat doing?" "What does the grocer have

in his hands?" and "Where is the man going?" do not require nonlinguistic designation. Apparently, some types of questions contain the designating information linguistically while others require or rely upon a concurrent designating behavior of the adult. Questions of these types suggest two broad referential classes: linguistic designation and nonlinguistic designation.

Categorizing the referential features of questions appears to be important, for several reasons. There are suggestions in language-acquisition literature that adults apparently shift from immediate referential sources with very young children to more abstract or non-immediate referential sources with older children (Brown & Bellugi, 1964). This observation is consistent with several assumptions made in this study implying that any system attempting to detect a shift in an adult's interactive behavior consider referential indices. Also, referential categorization appears to be a dimension of the interactive process that demonstrates the interdependence of verbal behavior and the immediate environment. Categorization of this aspect bridges the gap between the verbal characteristics of the interaction and the environment in which the interaction occurs, which is often neglected in accounts of language acquisition. Inclusion of these referential features in a descriptive model of adult interrogation may improve the overall precision of the description.

There are also constraints placed upon the child's response related to certain semantic cues of the interrogation. If a question such as "What is this?" is asked of a child, the cues singular and nonhuman are signaled by the interrogation and impose constraints upon

the child's labeling response. Another semantic cue which illustrates this type of constraint is pointed out by the questions "What is he doing?" and "What did he do?" While both questions are interrogating for a verbal response, the first is interrogating in the progressive action while the second is interrogating in the past action. Typical responses to the former question would be "Playing," "Working," "Jumping," while typical responses to the latter question would be "Played," "Worked," "Jumped."

Not only is the presence or absence of semantic cues apparently important as a type of constraint, but the degree of redundancy may also be important. For example, a question may signal singular and human ("Who is this?"). The stimulus designated by the adult may signal singular, human, and masculine (a picture of a man). From this combination of interrogation plus information stimulus, two semantic cues are signaled by the question (singular, human) and three cues are signaled by the picture (singular, human, masculine). Two semantic cues, singular and human, are redundant. In other words, the child's response to this question under these conditions can meet the semantic cue constraints of the interrogation by attending only to the semantic cues of the picture. An observer of the interaction might mistakenly attribute the child's appropriate response to comprehension of the interrogation and its cues when, in fact, the child attended only to the stimulus for his information. However, if a picture were presented portraying a man, two dogs, and a wagon, and asking the same question, the child would have to attend to the semantic cues of the interrogation to respond appropriately to the

question constraints. Systematic investigation of various combinations of redundant question and stimulus semantic cues might produce some interesting implications about language capability and specific syntactic discriminations. The degree of redundancy may be an important information source to the child or it may simply offer an alternative source for constraint information.

From this discussion, it has been suggested that questions may impose many different kinds of constraints upon responses. In the event that adults do shift their patterns of speaking to suit a child's capabilities, it appears reasonable to expect these shifts to be evident from a careful examination of the adults' use of constraints. Accordingly, a general categorization for interrogation has been developed based on the types of constraints that questions impose. In its present form, the question classes are based only on the syntactic correlates of constraints: the previously discussed information about referential features and semantic cues has not yet been incorporated into the classification scheme.

SOME PRELIMINARY RESULTS

Using the 15 categories of questions outlined in Table 1 (pp. 10-13), two examiners analyzed adults' questions generated from seven mother-child interactions. None of the seven children exhibited deviant language productivity as judged by the parents and the speech clinician who was acting as one of the examiners. The children's ages ranged from 26 months to 60 months (Subject A, 26 months; Subjects B and C, 27; Subject D, 30; Subject E, 48; Subject F, 55; and Subject G, 60). These seven

TABLE 1

CLASSIFICATION OF QUESTIONS

Question Classes	Basic Form	Form Variations	Response Constraint	Examples
1. Tag Question	Declarative sentence + tag element. Tag element is typically auxiliary verb + noun or pronoun.	Other elements may be used as tag elements, such as "right," "o.k."	Confirmation	It's a pretty day today, isn't it? I can jump high, can't I? This is the way to do it, right? Let's do this now, o.k.?
2. Auxiliary + Infinitive Question	Questions of this class are introduced by an auxiliary verb (is, have, do, can, will, may, shall) followed by an infintive verb form.	Question variations acceptable to this class allow deletion of the auxiliary verb or reversal of the auxiliary verb and noun or pronoun following.	Optional: Confirmation or Imitation	Do you want to look at the book? You don't want to write your name? (reversal) ____ you like to go on vacation? (aux. verb deletion)
3. Auxiliary + No Infinitive Question	Questions of this class are introduced by an auxiliary verb (is, have, do, will, can, may, shall) followed by the main verb. No infinitive verb form is used.	Question variations acceptable to this class allow deletion of the auxiliary verb or reversal of the auxiliary verb and noun or pronoun following	Optional: Confirmation or Imitation	Can you eat the cookies? Do you like ice cream? ____ you want some more milk? (aux. verb deletion)
4. Auxiliary + Embedded Wh-Modifier Question	Questions of this class are introduced by an auxiliary verb followed by an embedded sentence initiated by a Wh-interrogative (who, where, when, which, what, why, how). The embedded Wh-initiated sentence is only a modifying element, not a question.	Question variations acceptable to this class allow deletion of the auxiliary verb or reversal of the auxiliary verb and noun or pronoun following.	Optional: Confirmation or Imitation	Do you work when it's hot? Can you draw what he named? ____ you see which one he wanted? (aux. verb deletion) He does know when to go? (reversal)

Question Classes	Basic Form	Form Variations	Response Constraint	Examples
5. Auxiliary + Embedded Wh-Interrogative Question	Questions of this class are introduced by an auxiliary verb followed by an embedded sentence initiated by a Wh-interrogative (who, where, when, which, what, why, how). The embedded Wh-initiated sentence is a question.	Question variations acceptable to this class allow deletion of the auxiliary verb or reversal of the auxiliary verb and noun or pronoun following.	Optional: Confirmation or Wh-Response segment	Do you know who he is? Can you tell me where your Daddy is? ____ you know what time it is? (aux. verb deletion) You can read what the sign says? (reversal)
6. Main Verb Introduced Question	Questions of this class are always introduced by is or have when they function as the main verb, not an auxiliary.	Question variations acceptable to this class allow the main verb (is or have) to be deleted.	Optional: Confirmation or Imitation	Is this the one? Have you any water? Have you all of the crayons? ____ you late? (main verb deletion)
7. Wh-Interrogative, Locate-Time Segment Question	Questions of this class are introduced by a Wh-interrogative, when, and interrogate for a location in time.	Question variations acceptable to this class allow the Wh-interrogative, what time, to introduce the question.	Wh-response, Locate-Time	When do you want to go? When do you go to school? What time is it now?
8. Wh-Interrogative, Locate-Space Segment Question	Questions of this class are introduced by a Wh-interrogative, where, and interrogate for a location in space.		Wh-response, Locate-Space	Where is he? Where do you play baseball? Where have you been?
9. Wh-Interrogative, Nominal Segment Question	Questions of this class interrogate for a nominal segment in either the actor position (subject) or the receiver position (object) and are typically introduced by the interrogatives who, which, and what.	Question variations acceptable to this class allow the interrogative variations what one, which one, who else, what other, etc., to introduce the question.	Wh-response, Nominal Segment	What is this? Who is he? Who is playing ball? Which do you like? Who else wants to go? Which one fell down?

Question Classes	Basic Forms	Form Variations	Response Constraint	Examples
10. Wh-Interrogative Adjectival Segment Question	Questions of this class interrogate for a noun-modifying segment, adjectival in nature, either descriptive or quantifying. They are typically introduced by the interrogatives what kind of, what sort of, how many, or how much.	Question variations acceptable to this class allow the interrogative variations, how old, how tall, how far, etc., to be used.	Wh-Response, Adjectival Segment	What kind of cake is this? What sort of friends does he have? How many (how much) is this? How tall are you?
11. Wh-Interrogative, Verbal Segment Question	Questions of this class interrogate for a verbal segment and always use the verb do as the main verb. The interrogative what introduces questions of this class.		Wh-Response, Verbal Segment	What is he doing? What did he do? What are they doing over there? What will he do tomorrow?
12. Wh-Interrogative, Adverb Segment Question	Questions of this class interrogate for a verb-, adverb-, or adjective-modifying segment, adverbial in nature, either for manner or degree. The Wh-interrogative how introduces questions of this class.	The interrogative variations how often, how well, how easy, etc., are allowable in this class.	Wh-Response, Adverbial Segment	How is he doing? How well did you play baseball? How often do you go home? How easy was it?
13. Wh-Interrogative, No Segment Question	Questions of this class do not interrogate for any segment. The interrogatives why and how introduce questions of this class.		Wh-Response, No Segment, Elaborate in Nature	Why do you play baseball? How do you like school? Why do you eat ice cream?

Question Classes	Basic Forms	Form Variations	Response Constraint	Examples
14. Conjoined Question, or	Questions of this class make use of the conjunction or.	Typically, the use of this conjunction will offer two response alternatives, each of which is the same type of segment. However, some conjoined questions using or will interrogate for two different types of segments.	Alternative Responses	Is he playing or running? Which one do you want, the ball or the bat? Do you or don't you want to go? Who or what did this?
15. Auxiliary + No Segment Question	Questions of this class are introduced by an auxiliary verb and may or may not have an embedded Wh-interrogative sentence segment following. If an embedded Wh-segment is present, it will be initiated by either how or why. In either case, this class of questions will not interrogate for any segment.	Question variations acceptable to this class allow deletion of the auxiliary verb or reversal of the auxiliary verb and noun or pronoun following.	Optional: Confirmation or Wh-Response, No Segment, Elaborate in Nature	Can you tell me about the picture? You can tell me about the picture? (reversal) Do you know why he is working? Do you know how he did it? ____ you know why he did it? (aux. verb deletion)

interactions produced a total of 771 adult questions for analysis (A, 100 questions; B, 77; C, 138; D, 161; E, 112; F, 85; and G, 98). None of the mothers who participated with her child was aware of any specific interests of the research. Each mother was told this was a study of children's language under natural interaction conditions and was then asked to "interact" with her child as she normally might at home.

Using the questions from each interaction, each examiner classified all the adults' questions according to the definition criteria specified in Table 1. Coefficients of correlation (Pearson r) were computed between each examiner's number of questions per category (15) and were as follows: A, r of 0.99; B, 0.97; C, 0.99; D, 0.99; E, 0.99; F, 0.98; and G, 0.94. These results strongly indicate that two examiners familiar with the classification system and its definition criteria can agree very well when categorizing sets of questions.

While the interexaminer reliability question was the primary target for this data analysis, a second aspect of these results suggests a more promising finding. The seven children, each paired with his mother for the sample interaction, were chosen to cover an age range representative of possibly the most important years in normal language acquisition. These ages were selected because a variety of question types were sought for the reliability check by collecting questions from age levels reflecting varying communication capabilities. Also, the rationale prompting this investigation would predict differential demand patterns as a function of the different language capabilities of the children.

Figure 1 (p. 15) illustrates the interrogation profiles for each of the seven children. As this illustration points out, there

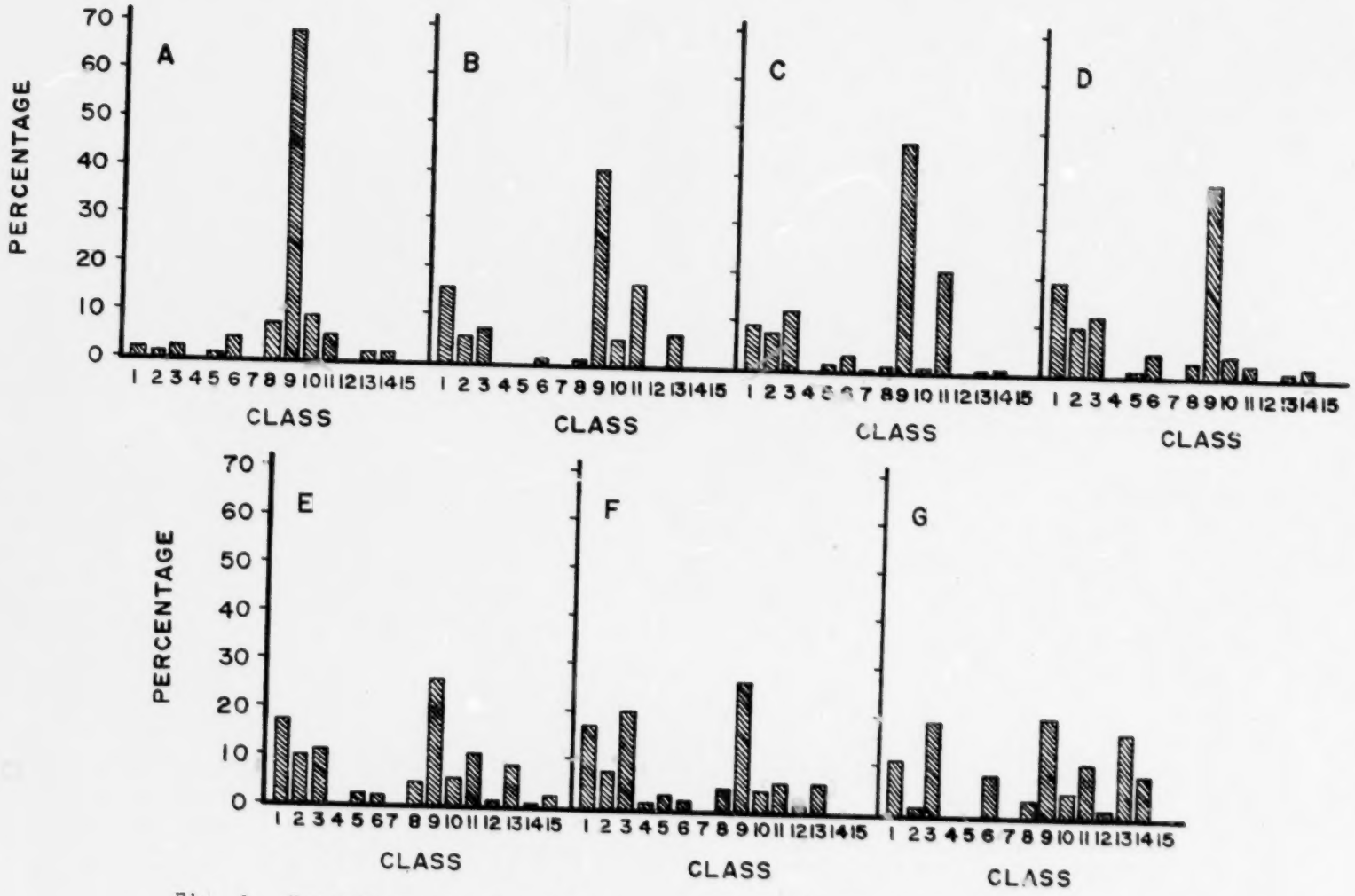

Fig. 1. Percentage of total interrogations, by question category, for seven mother-child interactions (Subjects A, B, C, D, E, F, and G).

is a shift in the adult interrogation from a heavy concentration in a few categories (note Figure 1, Subjects A, B, C, and D) among the youngest subjects to a more evenly distributed profile among the older subjects (note Figure 1, Subjects E, F, and G). The categories receiving the largest proportion of questions among the younger subjects were Categories 9 (nominal segment), 11 (verbal segment), and 1, 2, and 3 (confirmation or imitation responses). These classes of responses (naming objects, naming an action, responding yes or no, or imitating) are typical of children in the early phases of language acquisition. The interrogation profiles for the older children (Subjects E, F, and G) still indicate a significant occurrence of these categories mentioned above, but also indicate that other types of interrogation for other classes of responses are increasing in occurrence. Categories 8 (spatial locate), 10 (adjectival segment), and 13 (elaborate) are exemplary of these other categories. These results suggest that the types of verbal demands an adult places on a child are changing in relation to improved language capability.

SOME IMPLICATIONS

The Model

The preceding classification model represents an attempt to identify some of the primary constraints which limit responses to questions in predictable ways. Within each category of questions are many surface structure variations which will meet the defining characteristics of that category. However, each variation must still interrogate for the same class of responses; each must still place the same constraints

upon responses. If a question variant does not do this, addition or modification of that category is indicated.

Examination of the question classes and their defining features may suggest a lack of specificity with respect to the constraints placed upon the response. This is particularly noticeable where the response constraint is listed as optional (note Categories 2 through 6 and 15). Also, some of the sample questions in these optional categories do not suggest an equal probability for the two response classes noted. For example, in Category 4 the following question is shown as exemplary: "Do you work when it's hot?" One may argue that the response to this question has a high probability of confirmation (yes or no) and a very low probability of some imitative type of response. On the other hand, the second sample question in Category 4 ("Can you draw what he named?") suggests a different ratio of probability between confirmation and imitation when compared with the first sample question. Discrepancies of these types do exist at this initial level of classification and simply demonstrate that further subclassification within categories is necessary to account for the discrepancy. The proposed 15 question classes do not make all possible response-constraint distinctions; these categories are intended only as an initial sorting device within which further distinctions may be made.

The ultimate degree of specificity which can be attained with this system depends upon further study and modification. This classification makes use of only general syntactic features. From the inclusion of referential features and semantic cues, one would expect to gain a great deal of information about the specifics of the interaction.

For example, Category 9 of this scheme does not distinguish between interrogations for a noun in either the subject or object position or whether such nouns are to be singular or plural. Category 11 includes interrogations for a verb regardless of the tense of the interrogation. By making use of these types of distinctions with further refinements in the existent categories, the utility and sensitivity of this model can be extended.

Another aspect of this model is the degree of dependency upon interpretative elements in the definition of question classes. This is well-characterized by Category 15 where the embedded Wh-segment "will not interrogate for any segment." To some people, this dependency upon interpretation may be especially objectionable. However, surface structure performance features necessarily vary from speaker to speaker in their daily use of language. As a result, any attempts to classify performance utterances such as questions must be sufficiently flexible to accommodate these variations. Thus, initial classification attempts may require the exercise of considerable interpretation while later efforts may be more sophisticated. Also, not all syntactic and morphophonological elements in a question impose constraints upon the response. These nonconstraining elements need not be accounted for when the objective is entirely focused on the constraining elements. Finally, the experimental test for definition adequacy rests firmly upon the degree of intra- and interexaminer agreement. If reliability tests can establish a definition adequacy, then questions concerning validity can be undertaken concurrent with further refinements and elaboration of the basic model.

Normal Process

The normal process of language acquisition may be described loosely as a progression from a limited set of communication responses. An outgrowth of this changing language capability is the child's successful responding to new and more complex demands from his environment. If parents and adults are responsive to the child's limitations and the changes in these limitations over time, then there is a suggested relationship between the child's response capabilities and the demands placed on him by adults, particularly verbal demands. The data collected thus far about patterns of interrogation support this contention. The patterns of interrogation for the younger children (Figure 1, Subjects A, B, C, and D) suggested question types which closely match the types of responses one would expect from 26- to 30-month-old children. However, the profiles for the older children (Figure 2, Subjects E, F, and G), who were more proficient with language, pointed out that the adults' interrogation pattern was shifting toward demands for other classes of responses generally regarded as more complex (adjectival, adverbial, and elaborative). These data suggest a relationship between an adult's verbal demands and a child's language response capability.

McNeill (1966) has elaborated on another feature of adult-child interactions. Based on some earlier work by Brown and Bellugi (1964), he discusses the adult use of expansions which occur when the adult reiterates a child's response by adding, deleting, or rearranging elements. For example, the child may say, "Dog run," to which the adult may respond by expanding, "Yes, the dog is running." McNeill and Brown

and Bellugi point out that these expansions which are characteristic of adult-child interactions may provide an instructional mechanism to teach a child selected surface features of his immediate language environment.

Interrogation simultaneously places a demand for a response and constrains the response within specific limits. In conjunction with expansions, an adult's interaction has both a means of focusing on selected language segments and of providing feedback to the child regarding the adequacy of his response. For example, an adult might ask the question, "What is the boy doing?" (verbal interrogation, progressive action). The child might respond by saying, "Play," to which the adult might expand to, "Yes, he is playing." While the child's response met the minimal constraint feature, verbal, he did not meet the progressive constraint of the question. In this case, the adult's expansion response supplied the deleted constraint feature (progressive inflection, ing) as well as supplying the nearest well-formed sentence segment.

Questions and expansions occur at a significant rate in many adult-child interactions. These often-repeated sequences demonstrate a close relationship between certain environmental events and selected features of language. Since many questions interrogate for language segments generally regarded as critical to any language (nominal, verbal), the potential effect or effects of this source of influence on language segmentation and acquisition needs further study and clarification.

Diagnosis-Rehabilitation

Based on an effective means to analyze the verbal demand constraints

placed on a child, there are a number of diagnostic uses for such information. For example, there may be some definite diagnostic implications for the home environment. If a comparison were made between the parental demands for verbal behavior and an independent measure of the child's response capability, the appropriateness of the parental demands might be obtained. The evaluation of these demands might point out that the parents are insensitive to the child's performance capability; they are not sufficiently responsive to the types of verbal demands he can and does successfully meet and the types he cannot meet. Either of these conditions might reflect inappropriate expectancies for the child, suggesting specific areas for modification of parental behavior.

A detailed analysis of a child's responses to a standard set of demand constraints might provide information which is highly correlated with the child's typical language performance. For example, interrogation which constrains a child's response to present tense, verbal responses may receive very appropriate responses. However, when the constraint is shifted to past tense or future tense, the child's responses may be consistently inappropriate. This lack of past or future tense use may be indicative that this is a feature of language yet to be acquired. Since most children respond to questions at very early ages, the use of interrogation as a means to gather information about their language performance may be especially promising.

These diagnostic implications offer treatment or training implications as well. Appraisal of a child's typical language performance by sampling his responses to a standard set of demand constraints would

certainly aid in defining future treatment objectives. This appraisal would also provide an additional source of information which may be correlated with other measures of language in an effort to look at the consistency among related measures. An appraisal of this type may be particularly useful with very young children, where language measurement is difficult, at best. The determination of the appropriateness of parental demands would permit modification of those demands if necessary. The determination of appropriateness need not be limited to parents, but may apply to classroom teachers, speech clinicians, and others where there are special needs to optimize communication skills. Special education classrooms for the mentally retarded and preschool nursery programs constitute situations where demand constraints might be used to facilitate improved communication.

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